quovis objecto talis mensura quaerenda sit; ac proinde generalem quandam esse debere scientiam, quae id omne explicet, quod circa ordinem et mensuram nulli speciali materiae addictam[45] quaeri potest, eandemque, non ascititio vocabulo, sed jam veterato[46] atque usu recepto, Mathesim universalem nominari, quoniam in hac continetur illud omne, propter quod aliae scientiae et Mathematicae partes appellantur. Quantum vero haec aliis sibi subditis et utilitate et facilitate antecellat, patet ex eo, quod ad eadem omnia, ad quae illae,[47] et insuper ad alia multa extendatur, difficultatesque si quas contineat, eaedem etiam in illis existant, quibus insuper et aliae insunt ex particularibus objectis, quas haec non habet. Nunc vero, cum nomen ejus omnes norint, et, circa quid versetur, etiam non attendentes, intelligant: unde fit ut[48] plerique disciplinas alias, quae ab ea dependent, laboriose perquirant, hanc autem ipsam nemo curet addiscere? Mirarer profecto, nisi scirem eam ab omnibus haberi facillimam, dudumque notavissem semper humana ingenia, praetermissis iis quae facile se putant [praestare][49] posse, protinus ad nova et grandiora festinare.

6. At ego, tenuitatis meae conscius, talem ordinem in cognitione rerum quaerenda
[379] pertinaciter observare | statui, ut semper a simplicissimis et facillimis exorsus, nunquam ad alia pergam, donec in ipsis istis[50] nihil mihi ulterius optandum superesse videatur; quapropter hanc Mathesim universalem, quantum in me fuit, hactenus excolui, adeo ut deinceps me posse existimem paulo altiores scientias non praematura diligentia tractare. Sed priusquam hinc migrem, quaecumque superioribus studiis notatu digniora percepi, in unum colligere et ordine[51] disponere conabor, tum ut ista olim, si usus exiget,[52] quando crescente aetate memoria minuitur, commode repetam ex hoc libello, tum ut jam iisdem exonerata memoria possim liberiorem animum ad caetera transferre.

[45] AT and C: addictam. H and SGZ: addictas. A: addicta.
[46] H, C, and SGZ: veterato. A and AT: inveterato.
[47] AT, C, and SGZ: illae. H and A: illa.
[48] A, AT, C, and SGZ: ut. Missing in H. Added in L.
[49] Cf. AT, C, and SGZ, which insert: [praestare].
[50] H and SGZ: in ipsis istis. A and AT: in istis. C: in istis ipsis.
[51] A, AT, C, and SGZ: ordine. L: in ordine. N: in ordening.
[52] C and SGZ: exiget. H: exipet. A and AT: exigit.

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other object whatever. I also realized that, for this reason, there must be some general science which could explain all that which can be investigated concerning order and measure irrespective of any particular matter.[91] And I realized that this science should be designated, not with a far-fetched word, but by an already venerable term with a received usage, as 'mathesis universalis',[92] since it contains all that by virtue of which the other sciences are also called 'parts of mathematics'. How superior this science is to the other sciences subordinate to it, both in utility and in facility, is indeed clear from the fact that it may be extended to all those things to which they are, and, in addition, to many more, as well as from the fact that, if this science does contain difficulties, then these same ones exist in those other sciences as well, in which, due to the particular objects, there are also other difficulties, in addition, which this science does not possess. But now all know the name of this science, and, without even paying attention, can understand toward what it is directed. So how does it happen that most laboriously pursue the other disciplines which depend on it, but no one cares to learn this one itself? I would indeed be surprised at this – if I did not know that all hold it to be very easy, and if I had not realized, long ago, that human natural intelligence, having passed over things which it thinks that it can easily accomplish, always hurries on without delay to new and grander ones.

6. But, in searching for knowledge of things, I, conscious of my inadequacy, have resolved pertinaciously to observe such an order that, always starting with the simplest and easiest things, I never proceed to others until there seems to me to remain nothing further to be desired in these themselves.[93] For this reason, I have hitherto[94] cultivated this *mathesis universalis* so far as was within my power, so much so, that I should think that, in due course, I shall be able to treat of the somewhat higher sciences without premature diligence. But, before I proceed from here, I shall try to collect into a unity and to arrange in an order whatever I have thought noteworthy in previous studies: on the one hand, in order that hereafter, when the memory is diminished by increasing age, I can conveniently recall these things from this book, if use will render it necessary; and, on the other hand, in order that, the memory having already now been disburdened of these things, I might be able to devote a freer mind to the rest.

[91] Cf. R. 14, §§ 3 and 20–21 ff., R. 16, § 5, and AT, II, 70 (Descartes and Diophantus on 'order and measure').

[92] Here Descartes appears to have been inspired by the work of the Belgian mathematician Adrianus Romanus (1561–1615), e.g., *Apologia pro Archimede* (1597) and *Universae Mathesis Idea* (1602).

[93] The prevailing perception among commentators is that this statement, too, introduces an independent and inserted segment of text, i.e., § 6, which is predominantly of an autobiographical character and which was composed at a substantially different, and, very probably, earlier, time from §§ 1–4 of this rule.

[94] If one knew the precise temporal reference of this 'hactenus', then one would know a great deal more about the exact date of this entire part of the *Rules* than one does. For §§ 5–6 of this rule were very probably composed sometime during the middle of 1619 and are thus to be reckoned among the earliest parts of the text. Interestingly, these paragraphs are also the only two in the entire *Rules* to mention 'mathesis universalis'.

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Regula V

De ordine et dispositione rerum

Tota methodus consistit in ordine et dispositione eorum, ad quae mentis acies est convertenda, ut aliquam veritatem inveniamus. Atqui hanc exacte servabimus, si propositiones involutas et obscuras ad simpliciores gradatim reducamus, et deinde ex omnium simplicissimarum intuitu[53] ad aliarum omnium cognitionem per eosdem gradus ascendere tentemus.

1. In hoc uno totius humanae industriae summa continetur, atque haec regula non
[380] minus servanda est rerum | cognitionem aggressuro, quam Thesei filum labyrinthum ingressuro. Sed multi vel non reflectunt ad id quod praecipit, vel plane ignorant, vel praesumunt se [ea][54] non indigere, et saepe adeo inordinate difficillimas quaestiones examinant, ut mihi videantur idem facere, ac si ex infima parte ad fastigium alicujus aedificii uno saltu conarentur pervenire, vel neglectis scalae gradibus, qui ad hunc usum sunt destinati, vel non animadversis. Ita faciunt omnes Astrologi, qui non cognita coelorum natura, sed ne quidem motibus perfecte observatis, sperant se illorum effectus posse designare. Ita plerique, qui Mechanicis student absque Physica, et nova ad motus ciendos instrumenta temere fabricant. Ita etiam Philosophi illi, qui neglectis experimentis veritatem ex proprio cerebro, quasi Jovis Minervam, orituram putant.

2. Et quidem illi omnes in hanc regulam peccant evidenter. Sed quia saepe ordo, qui hic desideratur, adeo obscurus est et intricatus, ut[55] qualis sit non omnes possint agnoscere, vix possunt satis cavere ne aberrent, nisi diligenter observent quae[56] in
[381] sequenti propositione exponentur. |

[53] A, AT, C, and SGZ: intuitu … tentemus. Missing in H, which reads: intemus. L neither notices nor fills the lacuna.
[54] Cf. AT, C, and SGZ, which insert: [ea].
[55] H, AT, C, and SGZ: ut. A: et.
[56] AT, C, and SGZ: quae … exponentur. H: quae … exponetur. A: quae … exponatur.

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